

Wijittra Mahaut 2004: A Study on Relationship of Levels of Plant Nutrient Both Macro – and Micro Minerals in Soil and Cassava Leaves on Yield and Starch Content in Roots of Rayong 5 and Huaybong 60 Cassava Varieties. Master of Science (Economic Botany), Major Field: Economic Botany, Division of Science. Thesis Advisor: Associate Professor Uthai Kanto, M.S. 213 pages.  
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The study on the relationship of macro and micro minerals in soil, cassava leaves and tuber to the yield as well as starch content of the 2 cassava varieties, Rayong 5 and Huaybong 60 with different productivity (yield) levels was conducted. Commercial cassava plantations of both cassava varieties with 3 different yield levels, low, medium and high which was justified by the yield of the previous year were selected and subjected for the study. The yield of fresh tuber, plant height, vegetative yield above the ground, number of tuber per plant, harvest index and starch content in fresh tuber as well as the content of N, P, K, Ca, Mg, Fe, Cu, Mn, Na, and Zn in soil, cassava leaves and cassava chips of the plant at 5, 7 and 9 months of age were determined. Nutrient content in cassava chips from the plants with different yield levels were also analyzed.

The results of the study have shown that there were relationships of types and quantity of minerals in the soil to the yield and starch content of the cassava. However the relationships could not predict the yield and starch content of cassava due to the more variation of the content and the availability of minerals in the soil. There was a trend of the decreasing of minerals content but the increasing of organic matter content in the soil toward the aging of the plants.


There were high relationships of types and quantity of minerals in cassava leaves to the yield and starch content of cassava. Cassava plantation with high yield level always has high content of Ca, Mg, Fe, Cu, Mn and Zn but lower content of N, P and K in leaves than those with lower yield level. The results of the study have shown that micro minerals content in the leaves of cassava have influence on yield and starch content of plant. Huaybong 60 has a higher yield of fresh tuber than Rayong 5 at every production level and has higher content of every mineral in the leaves than those of Rayong 5

The relationships of types and quantity of minerals in cassava chips to the yield and starch content of cassava tuber were also apparent but the direction is unclear. There was an increase of N, P and Na but a decrease of K, Ca, Mg, Fe, Cu, Mn and Zn in cassava chips toward the aging of the plants.

Nutritive value of cassava chips produced from plants of every treatment has shown a higher percentage of ash and crude fiber content at age 5 month than those of the age 7 and 9 month. However, cassava chips from every treatment have nutritive value according to the prime quality cassava chips standard.

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Student's signature



Thesis Advisor's signature

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